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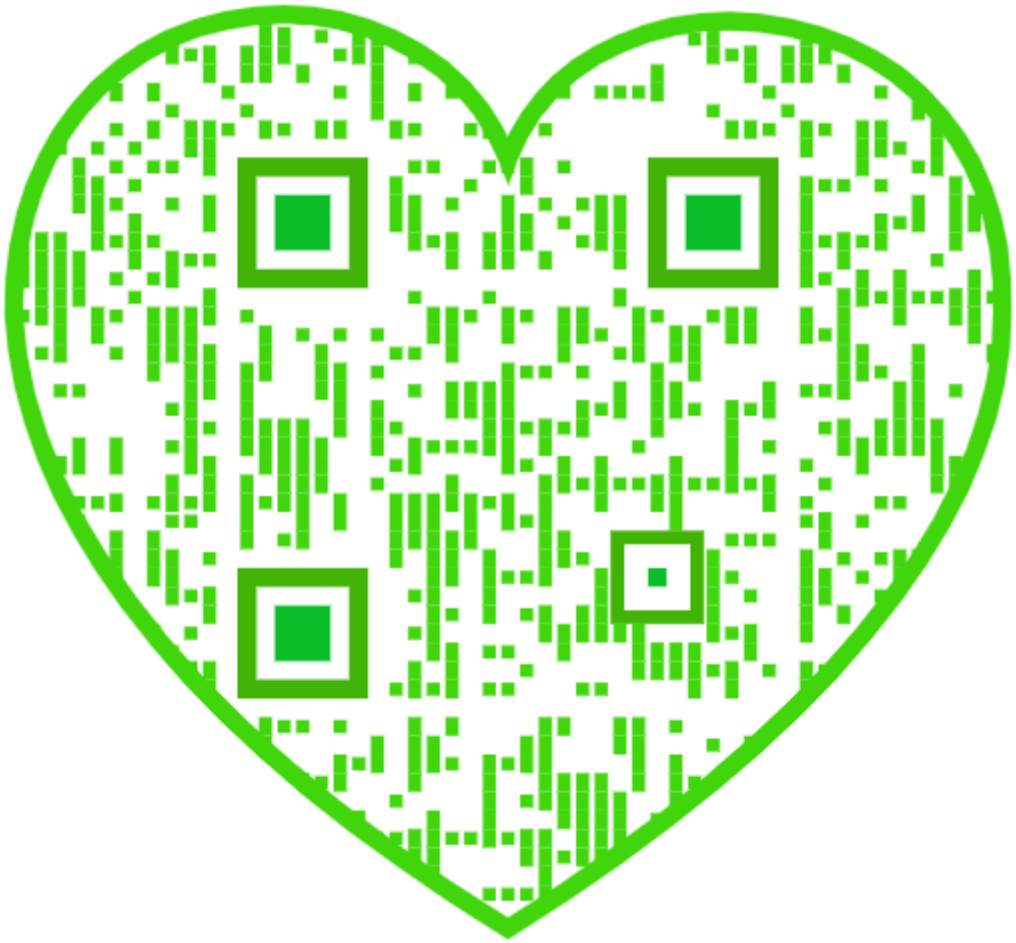

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AN

# Essay on Sheep.

BY H. D. GROVE.

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# ESSAY ON SHEEP.

*Of Crossed Breeds.*

The general rule is that the lamb possesses an equal share of all the properties of each parent. The idea is very erroneous that the size and form are more affected by the one, and the intrinsic qualities of the animal by the other—for although, in the first generations, the resemblance to the parent Ram may be most apparent, it is nevertheless certain that in subsequent years the distinctive qualities of the Ewe will again appear in the offspring. A pure race has been carefully preserved in Saxony which has had great influence in improving the native wool by constant crossing with full blood rams. But it is certain that real and durable excellence can only be attained by preserving the pure blood; and the best proof of this fact is found in Spain itself, where the Leonese flocks still continue to produce 25 per cent finer wool than those of Sozia; although the latter are suplied every year with more or less Leonese bucks and the method of treatment is precisely similar in each.

The improvement produced by crossing, naturally progresses most rapidly where the native ewes are of the best quality, although coarse wooled sheep may also be gradually improved upon in the same way; but in all such cases the size and form will be as much affected as the fineness of the wool, and all the attempts made to preserve the original size, while the wool was made fine, have eventually failed.

In the selection therefore, of a breed, or of a single ram for the purpose of a cross, regard should be had solely to the fineness and colour of the wool—to the firmness of its adhesion to the skin, and to the general health of the animal—and not at all to the large size; which property will be sure to disappear in the sequel if the wool does not degenerate.

*Of the introduction of a pure breed.*

The raising of an unmixed breed of sheep superior to the original flock is certainly much more expensive and difficult than improvement by crossing with rams of higher grades bought singly. It requires a considerable capital as well as very great care and attention.

It is seldom that young ewes are to be had at any tolerable price, and many persons who undertake this business are obliged to content themselves with such as cannot yield more than two, or at most three lambs.

A very important circumstance in a purchase of this kind is to inform one's self about the previous mode of feeding to which the sheep have been accustomed, and if any change is necessary, to introduce it gradually. Better feed will have a tendency to improve a flock, but it is dangerous to make even this change too suddenly.—Those who are able and willing to furnish capital for this purpose and devote the necessary attention to the business will nevertheless find themselves very soon repaid for their trouble and expense; since, in addition to the extra price of his wool, the owner of such a flock, will very soon be able to dispose of full blood rams, and as his flock increases, of ewes also; the price of which, if the best are constantly retained, cannot fail gradually to advance.

To make this business productive it is necessary to pay particular attention to the food of the ewes and lambs, and to have the latter dropped early in the season that they may attain their full strength at the proper period to produce their own young. Rams of inferior grades must of course be carefully excluded from the flock, and the ewes must be treated with extraordinary care to ensure long life and prevent premature barrenness. It is still doubtful whether there is an intrinsic difference in this respect between Merino and other sheep, or whether it is merely owing to the extraordinary attention they have received; but the fact is unquestionable that they usually rear healthy lambs at the age of twelve and sometimes even of fifteen years.

Even if the wool at that age should become a little less fine, the animal must not on this account be discarded, because if the blood remains unmixed this evil will cure itself. If these rules are carefully observed, the increase of a flock of fine blood may be made very considerable as will appear by the following estimate.

Commencing with 12 yearling ewes I estimate that each will bear one lamb the first subsequent season and as many the second, and that half of these are ewe lambs. The third year 9 ewe lambs may be expected, the fourth 12, the fifth 18, and the 6th 22. Supposing that the oldest ewes have now become barren, the same progression will give, at the end of sixteen years from the purchase, a flock of 867 ewes of pure blood, and the low estimate of 6 lambs in all from each ewe is so much within bounds as fully to offset the chances of loss from disease or accident, if good care is taken in managing the flock.

The first purchase of ewes of pure blood will obviate the necessity of subsequent purchases of rams from time to time, which is absolutely necessary in a mixed flock to prevent the wool

from degenerating; and a further profit results from the sale of the rams which may commence with the fourth or fifth year.

*On the selection of sheep for breeding.*

The most important point is to be certain of the pedigree of the animal to be bought, and a sheep known to be of pure blood should always be preferred before another of finer fleece and better form, whose ancestry is uncertain. Next in importance are the fineness and elasticity of the wool, the evenness of the fleece over the whole body, the absence of hairs—the strong, compact form—and full health. The best sheep are distinguished by full and bright eyes, bright red veins about the lachrymal glands, a broad forehead, short but stiff ears, a short, thick neck, broad chest, round shoulders, and generally a stout, thick set form, with short legs.

The *size* of the body is of less consequence than any of these particulars, having much less influence on the progeny than many people suppose. The thickness of the fleece is mainly affected by the quality and quantity of nourishment, and will not continue through many successive generations without care in this point. There are many other supposed marks of a good ram, such as a large tuft of wool on the forehead, a large hanging dewlap, much wool on the hinder legs, three rows of wool round the neck, &c. &c.—but all these or any other similar marks I consider as of no sort of consequence, and believe they may all be found on very inferior sheep.

It sometimes happens that wool growers are more desirous of heavy fleeces than of superior fineness of the wool, and therefore select in preference the largest, heaviest animals rather than those of the finest fleece; but in this case they fail of procuring the genuine merino blood which never reaches to a large stature under any circumstances.

During pregnancy the ewes should be better fed than usual, and this feed should be continued till they are furnished with ample pasture. It is of great importance that the lambs should acquire strength enough very soon after birth to support the bad weather which may follow in the spring—and be able to benefit by the early pasturage, by which means they may be sooner weaned, and the fleece of the ewes increased by stopping the flow of milk.

The rams in every flock must of course be kept separate from the ewes and yearlings—the most convenient arrangement is to pasture them with the wethers. One buck is sufficient for about forty ewes. In Spain the proportion is 3 to 100. During the season of impregnation they are fed, morning and evening, with oats.

In the season for dropping lambs the utmost care is necessary, and if the shepherd is not to be entirely depended on, the proprietor should have him constantly overlooked. The birth is

commonly easy but often slow. Ignorant shepherds are very apt on such occasions to be aiding in the birth, which is always useless and often very injurious.

It often happens that ewes will not own their lambs, particularly the first they bear, and in this case I would advise to sprinkling a little salt on the lamb which induces the ewe to lick it, after which it will generally allow it to suck. If not, the ewe with her lamb should be placed in a separate enclosure (of which several should be previously prepared) and fed with the most nutritious fodder, particularly with succulent liquids, that her udder may be uncomfortably distended; and if this is not sufficient she must be tied by the legs till the lamb has been once suckled; after which there will be no further difficulty. The mother's milk is by far the best nourishment for the lambs, and should never be taken from them for other purposes, as is often practised by shepherds. About three or four weeks after birth the lambs should be fed with bruised oats, or oil cakes softened in water, tender hay and well dried red clover, or other similar fodder. In order that the lambs alone may eat their proper fodder an enclosure is made, through the apertures of which they can pass, while the full grown sheep are excluded. This previous feeding enables them better to support being weaned at the proper time.—The weaning should take place very gradually for the benefit of the ewe as well as of the lamb, and after weaning, the lambs should be kept at a considerable distance from the ewes.

The ram lambs are cut at three or four weeks old, the tails of the ewe lambs are cut off to within about three inches or something less of the body at the same age.

The *fodder* or *pasture* of sheep has been found, after the most careful experiments, to have no effect on the fineness, and very little on the elasticity of the wool; but a very important one on the thickness and length and consequently on the weight of the fleece. Its effect on the health and increase of a flock is of course all important.

The most important circumstance in regard to the strength of the sheep is that the supply of food should be *equal in quantity* at all times, except a little increase during the time of suckling. Even the wool often becomes weak and loose in consequence of sudden changes from plentiful to scanty feed and vice versa. It is therefore essential that the fodder in winter and the pasturage in summer should be provided in such manner as to subject the sheep to no changes of this kind.

A sudden increase of food is very injurious, although sheep may be gradually accustomed to a very plentiful supply, and generally fully repay the additional expense in the increased quantity of their wool. The proportion of time during which sheep may be pastured differs of course in different climates. In Saxony, sheep are kept about five months on winter feed, but

good farmers lay in a stock for 170 days to guard against scarcity in case of a backward spring. The excess is never lost, though late fall feed or early pasture in the spring should allow it to be laid up for another year.

*Pasturage.*

Sheep are seldom admitted to pasture in summer on the meadows, except here and there on the driest and leanest spots, but it often happens that they are driven on in the spring, if the grass starts early enough for them to feed some time and be driven off again four weeks before the cattle are driven on.—The sheep receive no injury in this way, provided there are no pools of standing water in the meadow, and they do not remain on it too long. Generally, however, the only pasture they have, is on the drier and leaner soils; particularly on steep hills, not easily arable nor producing sufficient pasturage for cattle.—This kind of pasture is the best suited to sheep, and such land can in no way be so well improved. It often happens however, that such high lands are not without swampy and springy places or pools of water either on the sides or in ravines between the hills; and all such spots are very dangerous for the sheep.—All places where water plants are nourished should be carefully avoided, and more than ever during the greatest heat of summer when they are dry from evaporation. They are then more dangerous than ever because deadly vapours are constantly rising through the dry crust that covers them, and oftener than any other circumstance create the rot which it is so difficult to conquer when once its ravages have begun. It is by no means during the growing season that this danger is most to be feared, for at that period the sheep find sufficient nourishment in dry situations and avoid wet spots of their own accord. Merino sheep are doubtless more subject to the rot than the coarser breeds, and therefore require particular care in this respect. All such marshy spots should therefore be carefully drained in places where these sheep are to be pastured. Wooded pasturage affords sometimes very good feed—but if the shade is very close, the grass, though sometimes very plentiful, is not so nutritious as elsewhere and the wool of sheep receives some injury from the deep shade. The young grass on fields in fallow as well as the fall feed after harvest are excellent for sheep, particularly the former.

The best pasture must be reserved for the lambs, the next for rams and ewes, and the poorest left for the wethers.

The winter feed consists usually of hay and straw only.—The best hay is well dried, early fresh meadow hay, which should be mowed as young as possible, and not cut on marshy places. Clover, lucerne, &c. if well got in, are preferable to other grasses.

Straw intended for sheep must also be got in dry and sweet.—

It is nourishing only in so far as it is mixed with weeds, unripe ears, and heads not thoroughly thrashed. The best straw is therefore to be found on the worst managed farms. Perfectly clean straw affords almost no nourishment, except a little in the joints;—but it aids in digestion and helps at least to fill the stomach.

The stalks of peas and beans are more succulent, but there is a great difference between such as are mowed before they are fully ripe and those that are dry before mowing. In the former case they make very good fodder—though hay is preferable. The usual calculation is two or three pounds per day of dry fodder for a full grown sheep, but many farmers give less than a pound of hay, and make up the deficiency in straw and pea vines. A flock may be kept alive on this fodder, but without mixing some grain, or at least half-thrashed straw with it, it is impossible that a flock should go on improving in quality, notwithstanding the greatest care in other respects. The most economical method, considering the increased weight of wool which may be produced by it, is to give the sheep as much dry fodder as they will readily eat. If hay alone is used, at least two hundred weight is necessary for each sheep; if a few peas and summer straw are added the supply will be ample for the winter.

Potatoes, turnips, carrots and many other roots furnish excellent fodder for sheep; of which it is unnecessary to speak at large, the circumstances of each farm being the best guide as to their use.

Salt is required by sheep at intervals during the whole year, but it is often given in too great quantity and almost forced upon the sheep; which is always injurious, and often injures the digestion so that the best grain will pass through them unaltered.—The best mode, where rock salt is to be had, is to attach pieces here and there in the stable or the pasture and let them lick it as they wish. The usual calculation is from one to two pounds yearly per head, but I have found that something less than one pound was quite sufficient and more than this is not given in Saxony to the best managed flocks.

It is very important that sheep should he furnished with clear water to prevent their drinking from stagnant, muddy pools, which almost always occasions disease. If there is no running stream in their pasture they should be watered as often as twice a day from a well.

The principal requisites for the *stall* or *shelter* for sheep are dryness, airiness, and sufficient room. They are very little liable to injury from cold. Lambs, however, should be protected from extreme cold for a few weeks after birth.

Dry fodder should always be put in cribs, and not thrown on the ground or barn floor.

The best method of washing wool previous to shearing, is to

wet the fleece thoroughly on he previous evening by immersing the animal repeatedly in a stream of water, in order that the dirt adhering to the wool may be softened and more easily removable on the following day, when the principal washing is to be done. Care must be taken that the sheep do not swallow any water during the process. Three or four days after the washing, when the wool has been thoroughly dried, and after the natural moisture has begun to reappear, the shearing may be commenced.

*On the disorders of Sheep.*

Almost all the disorders which attack sheep are caused by the want, and seldom or never by the excess of activity in the vital organs. The nerves are very susceptible, but seldom act with great force—and whenever they are powerfully excited, this excitement soon passes off and leaves the animal extremely weak. It follows from this that most of the means required for the cure of diseases among sheep should be calculated rather to excite than to allay the activity of the functions of life—a few of the most common diseases among sheep deserve to be particularly noticed.

*The Rot*

Exhibits itself scarcely at all externally. The blood loses its high colour and tendency to coagulate and becomes watery. The first perceptible symptom therefore is the loss of the bright red appearance about the eyes: the lips and inside of the mouth also become pale, as well as the skin generally under the wool. The animal continues to feed well and does not grow poor, although the natural vivacity is diminished and some signs of weakness occur.

The disease commonly gains strength in the winter. Watery swellings are formed, particularly under the chin, which are often absorbed and then reappear. Soon after these the animal generally dies without showing any symptoms of violent pain. Ewes attacked by this disease die most commonly about the time of dropping their lambs. The body on opening exhibits copious collections of water obout the chest and entrails, the blood is extremely pale as well as the flesh. This disorder is unquestionably caused by feeding in swampy grounds, and a few hours are sufficient to fix it upon a sheep. It is increased by damp, foggy weather, while on the other hand, dry warm weather and high pasture, especially where there are many aromatic herbs, are sometimes sufficient to counteract the first symptoms and effect a cure. This disorder, however, when it has reached such a point that a common observer may notice the symptoms, is probably incurable. At a very early stage a cure is possible if the flock is kept carefully on high land where aromatic herbs are abundant and particularly among juniper bushes, and in bad weather carefully housed and well fed. Horse chesnuts are an excellent article for fodder in this case also a mixture of juniper

berries, wormwood, sage, gentian, angelica roots, willow bark and other bitter herbs with a little salt and grain which they will eat of their own accord, or if not, it should be administered in small quantities in the morning before they are driven to pasture. If the rot makes its appearance in a decided manner before the winter sets in, it is useless to attempt any thing more than to fatten the animal as soon as may be and sell him to the butcher. The rot certainly is not infectious, and it very often occurs that only a few sheep are attacked in large flocks; and generally in such cases, if the shepherd is honest, the disease may be traced in every case to some swamp or other wet place where these particular sheep may have strayed.

*The Mouth and Hoof Distemper.*

These complaints seem to have a mutual connection since the former, which is the mildest, very often precedes the latter. In the mouth the principal evil to be feared is that the sheep become emaciated from the inability to eat. The best remedy is to bathe the part affected with a strong decoction of sage, mixed with an equal quantity of vinegar and a little honey. If the blisters continue to spread, half an ounce of blue vitriol should be added to a quart of this mixture. The disorder in the hoofs is soon discovered by lameness and if this is evidently not produced by any external injury, and especially if several sheep in a flock are attacked at the same time, great care should be taken to obviate the effects of this disorder. The best remedy is a poultice of dough or fat loamy clay which should be applied to the foot by means of a little bag, but not tied hard to the ancle, and kept constantly wet with vinegar, till a swelling appears on the upper side of the foot or in the cleft of the hoof. This should then be opened with a sharp knife and the dead hoof pared off. The wound must be washed with cold water and sprinkled with dry vitriol. The lame animals should remain carefully separated from the sound ones, and the washing and sprinkling with vitriol repeated till the cure is effected. This disease is not only contagious but also infectious in the highest degree and oftentimes so violent as to produce caries in the bone after the hoof is destroyed.

*The Itch or Scab.*

This disorder is dreaded more than any other, and did in fact more damage in many districts than any other, until the proper mode of treatment was discovered. The scab is certainly contageous and may readily be propagated by merely touching the skin of a healthy animal with matter from a pustule on another sheep—but as far as my observation has extended the infection is not conveyed through the atmosphere, though it often seems to be epidemic, and particularly in very damp summers which affect sheep in many other ways so unfavourably.

It is discovered by the animal's constantly rubbing or scratch-

ing itself and making at the same time a peculiar motion with the lips the scabs are sometimes dry and sometimes moist, and spread very rapidly, though the animal continues healthy in other respects, and generally more lively than before. Afterwards however the disorder becomes internal, the sheep becomes emaciated and dies from weakness and pain. If the scab is observed at an early period it may be easily cured or at least prevented from spreading. One of the best remedies is a strong decoction of tobacco to be applied to the diseased parts, after scratching off the scabs with a comb or other instrument. The decoction of tobacco mixed with lime water and oil of vitriol, and used constantly for some time, will generally effect a radical cure; another excellent remedy is a decoction of hellebore mixed with vinegar, sulphur, and spirits of turpentine. Internal remedies are of no use except when the disorder has induced other complaints by weakening the general health.

*The Sheep-Pox.*

This disorder is contagious and propagates itself by exhalation from the sick to the healthy animal, but it has not yet been discovered how far these exhalations may extend. If, however, it appears in a neighboring flock, care should be taken to mitigate its effects by a general and careful inoculation, since it is certain that the disorder is less violent if taken by inoculation than in the natural way. The operation is perfectly simple and easy. The animal is laid on its back and held by two or three men while the operator introduces the matter, from a pustule five or six days old, in two or three places between the legs or on the tail. The lancet should be introduced in a slanting direction under the skin about an eighth of an inch, and when it is withdrawn, the skin should be pressed down upon it so as to wipe off the matter and leave it in the wound. A pustule is formed generally in four days, and reaches its greatest size on the sixth, when a few others generally appear near the first.

Soon after this the usual symptoms of fever and general eruption take place, which last is, however, more regular and safe than if the animal had taken the disease without inoculation.

The only care necessary during the progress of the disorder is to keep the sheep in a cool and airy situation. Internal remedies are not required, but the sores should be often washed with a strong infusion of camomile flowers in which a little blue vitriol has been previously dissolved, and afterwards dressed with a salve made of yolks of eggs and turpentine, mixed with a little powdered charcoal.

*The Reeling Sickness*

Is never infectious, but generally incurable. Its first symptoms are a weakness in the gait and a disposition in the animal affected to remain separate from the flock. The head is thrown into an unnatural posture, generally on one side. The animal then begins to turn round, always in one direction,—stumbles and falls

repeatedly, sometimes with the head under the body, then ceases to feed and soon dies.

Lambs and yearlings only are usually liable to this disorder, and very rarely sheep over two years old. The seat of the disorder is always to be discovered on the brain where one or more blisters are formed and filled with a watery secretion.

The origin of this complaint, and of course the proper preventive treatment, remain as yet undiscovered. A cure is sometimes effected by an operation through the skull to let off the water.

The first step in this case is to examine the skull carefully, in search of a soft spot in the bone which usually indicates the spot affected. The skull is then perforated with a *trocar*, accompanied by a tube through which the water may escape; after which the tube also is withdrawn and a few drops of the essence of myrrh applied to the aperture. This operation is sometimes successful, but more often the reverse. If it succeeds, however, in only one cure out of five, it seems worth the trial since without some relief the sheep must certainly perish.

*Swelled Paunch.*

When sheep or other ruminating animals eat more than they can digest the food ferments in the stomach, emitting great quantities of gas which stretch this organ so as to draw together its apertures, the paunch becomes excessively distended, the lungs oppressed, the breath and pulse obstructed, and the death is very sudden.

This effect may be produced by fodder of any kind, but most readily by such as the sheep prefer, especially if they are not accustomed to it. Green clover and lucerne have, therefore, often been observed to bring on this disorder—but it is nevertheless certain that neither of these substances are in themselves injurious, since I have known sheep accustomed to them eat their fill day after day for months together without suffering any ill consequence. Any young green feed is more likely to be hurtful in this way than dry fodder—but only when eaten in excess after long abstinence. If the approach of the swelling is observed by the shepherd in season, it may be prevented by violent friction of the back and belly and driving the sheep rapidly. These remedies are assisted by a previous dose of lime water, which should be repeated half an hour afterwards, taking care that the lime is good and not previously air-slacked.

If the attack is so violent as to leave no time for these remedies, an opening must be made in the paunch with the trocar and sheath—an operation which cannot easily be described, but may be exhibited without any difficulty to any person unacquainted with it.

I omit to notice a great variety of other diseases of sheep which I have had no opportunity of attending to personally,—and also the whole series of external injuries to which sheep are liable,—and in the treatment of which each man's experience is his best guide.

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